

AMENDMENT TO CLAIMS

Please amend the claims as follows:

1. (Currently amended) A system for accessing and transmitting different data frames in a digital transmission network ~~for accessing and transmitting different data frames~~, comprising:

at least a user-network interface (UNI) ~~from plurality of UNIs~~, which is used to couple with ~~[[the]]~~ a user's network; and/or at least a network-network interface (NNI) ~~from plurality of NNIs~~, which is used to couple with said digital transmission network to transfer data; and

a data converting device, which is coupled with said UNIs and said NNIs to convert data formats between said UNIs, data formats between said NNIs, or data formats between said NNIs and said UNIs;

~~[[Said]]~~ said data converting device comprises a virtual interface device, said virtual interface device comprises: at least two device interfaces which comprises UNIs or NNIs, for inputting or outputting data frames; a virtual interface processing unit, which couples with said device interfaces to process said data frames and exchange said data frames between said virtual interface processing unit and corresponding device interfaces; ~~a~~ rule database, which couples with said virtual interface processing unit and stores rules corresponding to different data frames, said virtual interface processing unit determines ~~[[the]]~~ a processing flow according to the classification of data frames under said rules; a control interface unit, which couples with said rule database and said virtual interface processing unit to control ~~[[them]]~~ said rule database and said virtual interface processing unit; an inter-device interface, which couples with said virtual interface processing unit to couple with external devices to exchange data,

wherein a corresponding relationship between said device interfaces and said rules is 1: N, N being a natural number greater than 1, and each device interface is configured as a device interface meeting a requirement of the data interface corresponding to any of the rules.

2. (Cancelled)

3. (Currently amended) A system for accessing and transmitting different data frames in a digital transmission network according to claim 1 ~~or 2~~, wherein said control interface unit provides an external control interface, through which ~~an~~ to inspect the operation of the virtual processing unit is inspected, and ~~[[add]]~~ addition, delete deletion, modify modification and ~~search~~ searching operations are performed to rules in said rule databases database.

4. (Currently amended) A system for accessing and transmitting different data frames in a digital transmission network according to claim 3, wherein the rule comprises device interface number, data frame type number, data frame address offset, data frame type value, and data frame comparison mask, which provides relevant processing and control parameters when said virtual interface processing unit processes said data frames.

5. (Currently amended) A system for accessing and transmitting different data frames in a digital transmission network according to claim 1, wherein said device interfaces connect with said UNIs or said NNIs, ~~[[the]]~~ a corresponding relation between said device interfaces and said UNIs or said NNIs is 1:1, ~~and said inter-device interface connects with said data processing and dispatching device.~~

6. (Currently amended) A method of accessing and transmitting different data frames in a digital transmission network through the system of claim 1, ~~said system comprising a data converting device comprising a virtual interface device, wherein said method comprises~~ comprising the following steps:

Searching for a rule corresponding to said device interface;

Determining whether said rule is found ~~if not, ending the process;~~

If yes, obtaining ~~[[the]]~~ type information of the data frames;

determining whether said type information complies with ~~[[the]]~~ a second rule in the rules;

If not, searching for the next rule corresponding to the device interface, and determining again whether said rule is found; and

If yes, modifying said data frames information, outputting the data frames via the inter-device interface, ~~and then ending the process.~~

7. (Currently amended) A method of accessing and transmitting data frames in a digital transmission network according to claim 6, wherein when the data frame enters the device via the inter-device interface, said virtual interface device also performs the following steps:

Extracting the type information of the data frames, and searching for corresponding rule in the rule database according to said type information;

If the rule is not found, discarding said data frames ~~and ending the process;~~

If the rule is found, modifying said data frames information, and sending the data frames to a corresponding device interface according to the rule.

8. (Currently amended) A method of accessing and transmitting data frames in a digital transmission network according to claim 6, wherein the rule database is searched according to the number of a device interface receiving the data frames.

9. (Original) A method of accessing and transmitting data frames in a digital transmission network according to claim 6, wherein said step of the rule being not found comprises the step of outputting a report and discarding said data frames.

10. (Currently amended) A method of accessing and transmitting data frames in a digital transmission network according to claim 6, wherein the step of obtaining the type information of the data frames comprises: read [[the]] information at [[the]] an address offset according to the address offset of the data frame frames address offset, and perform "AND" operation between said read information and a data frame comparison mask in the rule.

11. (Original) A method of accessing and transmitting data frames in a digital transmission network according to claim 10, wherein the step of determining whether the type information complies with the second rule in the rules comprises the following step: comparing the type information with the data frame type value in the rules.

12. (Currently amended) A method of accessing and transmitting data frames in a digital transmission network according to claim 10, wherein the step of modifying the data

frames information comprises the following step: inserting ~~[[the]]~~ data type number information at ~~[[the]]~~ a head position of the data frames.

13. (Currently amended) A method of accessing and transmitting data frames in a digital transmission network according to claim 7, wherein the step of extracting the type information of the data frames comprises the following step: extracting ~~[[the]]~~ data type number information at ~~[[the]]~~ a head position of the data frames.

14. (Currently amended) A method of accessing and transmitting data frames in a digital transmission network according to claim 13, wherein the step of searching corresponding rule in the rule database comprises the following step: searching in the rule database with ~~[[the]]~~ an index of the data frame type number.

15. (Original) A method of accessing and transmitting data frames in a digital transmission network according to claim 14, wherein the step of modifying the data frame information and sending the data frames to corresponding device interfaces according to corresponding rules comprises the following steps: deleting the data type number information at the head position; and sending the data frames to corresponding device interfaces according to the device interface number in the rule.

16. (New) A virtual interface device comprising: at least two device interfaces which comprises user-network interfaces (UNIs) or network-network interfaces (NNIs), for inputting or outputting data frames; a virtual interface processing unit, which couples with said device

interfaces to process said data frames and exchange said data frames between said virtual interface processing unit and corresponding device interfaces; a rule database, which couples with said virtual interface processing unit and stores rules corresponding to different data frames, said virtual interface processing unit determines a processing flow according to the classification of data frames under said rules; a control interface unit, which couples with said rule database and said virtual interface processing unit to control said rule database and said virtual interface processing unit; an inter-device interface, which couples with said virtual interface processing unit to couple with external devices to exchange data,

wherein a corresponding relationship between said device interfaces and said rules is 1: N, N being a natural number greater than 1, and each device interface is configured as a device interface meeting a requirement of the data interface corresponding to any of the rules.